

FORT ROSECRANS, MINING CASEMATE
(Naval Submarine Base, Building No. 167)
Point Loma
San Diego Vicinity
San Diego County
California

HABS NO. CA-2255-A

HABS
CAL,
37-SANDI,
29-A-

PHOTOGRAPHS AND
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Western Region
Department of Interior
San Francisco, California 94102

HISTORIC AMERICAN BUILDINGS SURVEY

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Fort Rosecrans, Mining Casemate
(Naval Submarine Base, Building No. 167) HABS No. CA-2255-A

Location: Naval Submarine Base
Bounded by White Road, Sylvester Road, and Rosecrans Street
San Diego
San Diego County
California

U.S.G.S. Point Loma Quadrangle (7.5')
Universal Transverse Mercator Coordinates
11.477180.3616300

Present Owner: United States Government

Present Occupant: Vacant

Present Use: None

Statement of
Significance:

The Mining Casemate (Building 167) at the old Fort Rosecrans U.S. Army Coastal Defense Facility represents an extremely early use of reinforced concrete as applied to military installations and is the only example of its period and type in southern California. Originally intended as an electronic control facility for the detonation of mines, the underground building was designed to withstand the direct impact of heavy battleship artillery shells, thereby allowing for the continued protection of the harbor against possible invasion. As a result, the design and construction of the facility were directed solely toward the uninterrupted operation of the unit with little, if any, regard for user comfort. The building is, therefore, a remarkably pure expression of utilitarian construction and design where form is dictated entirely by function. Built in 1897, the structure was remodeled in 1899, 1909, and 1917 in efforts to upgrade it in accordance with progressive developments in warfare planning and technology.

PART I. HISTORICAL INFORMATION

A. Physical History

1. Date of Erection: Planning for the development of a nationwide coastal defense system began in 1885 with the establishment of the Endicott Board appointed by President Grover Cleveland. The board recommended fortification of 29 locations including San Diego, which ranked 21st in importance (Lewis 1979:77; Callaghan 1980:22). The board advocated several classes of harbor defense including underwater mines planted in harbor channels.

Construction of the Mining Casemate (Building 167) at Fort Rosecrans began early in 1897. Excavation was completed by the spring of 1897, and the building was finished in April of the following year (Chief of Engineers 1898, Appendix 3:747; 1899, Appendix 4:77).

Outbreak of the Spanish American War in the spring of 1898 accelerated the completion of the entire facility and the mining of the harbor. In April 1898, orders were received to mine San Diego Harbor. Supplies were obtained from San Francisco's harbor defense facilities. In addition, a volunteer crew of 80 citizens that included carpenters, electricians, civil engineers, surveyors, telegraphers, boiler makers, steam engineers, boatmen, and mechanics assembled to rapidly complete needed facilities and plant mines. Work began in May of 1898 (Chief of Engineers 1899, Appendix 4:75).

It immediately became apparent that the casemate was not large enough to hold the necessary equipment. As a result, the generator, a four horsepower internal combustion unit which supplied power to the control unit, was housed in a hastily built wooden shed located in a nearby clump of trees. Telephone communication was installed between the casemate and a nearby warehouse that served as a loading room where the mines were armed. By May 24, 15 mines had been planted in the harbor in five groups and the facility subsequently became fully operational (Correspondence 12-6-1898: 27824/32; 4-29-1898: 25777/1; 6-17-1898: 25577/8; Chief of Engineers 1899, Appendix 4:77). These mines were removed from the harbor in August 1898 (Chief of Engineers 1900:34).

2. Architect: The architect of the Mining Casemate at old Fort Rosecrans was the U.S. Army Corps of Engineers.

As planned by the Endicott Board and designed by corps engineers, the basic or conceptual design of buildings and support facilities was standardized. In 1881, a document entitled Report Upon Experiments and Investigations to Develop a System of Submarine Mines for Defending the Harbors of the United States: Professional Papers of the Corps of Engineers, No. 23 was prepared by Henry L. Abbott, LTC. This document outlined the components of harbor defense and made suggestions for the design of an adequate system. The Endicott Board, with Corps assistance, later implemented the system nationwide with minor variations in the design of individual facilities.

3. Original and Subsequent Owners:

Chain of Title

- 1848 The Treaty of Guadalupe Hidalgo gives the United States government ownership of the land as a military reservation of the former Mexican territories.
- 1852 The Point Loma Military Reservation is established by executive order on February 26.
- 1870 On February 28, the U.S. Army takes possession of Ballast Point.
- 1957 Fort Rosecrans is officially transferred to the U.S. Navy.
- 1959 The Navy takes possession on June 29.

NOTE: Since the government took possession of the base as part of the Treaty of Guadalupe Hidalgo in 1848, there are no deeds or records of sale for this property.

4. Builder, Contractor, Suppliers: The actual builder/contractor and suppliers who contributed to the construction of the Mining Casemate are unknown. However, it is known that a volunteer group of citizens worked to complete the facility following the outbreak of the Spanish American War (Chief of Engineers 1899, Appendix 4:777-778).

5. Original Plans and Construction: The Mining Casemate at old Fort Rosecrans was originally built as a 12-foot x 18-foot room of poured and reinforced concrete, 10 feet in height. In order to withstand a direct hit from heavy battleship artillery, the structure was built 15 feet below ground surface in a bluff at the north base of Ballast Point. The walls were 4 feet thick and 15 feet of concrete covered the roof. Sixty feet of soil covered the structure on the north, south, and east sides. The facility was entered by a downward-leading concrete stairway from the surface of the west side (Correspondence 12-6-1898: 27842/32; U.S. Engineer Office 1897: 103-19-6; 1898: 102-19-2). A concrete tunnel built into the casemate floor, known as a cable gallery, provided a conduit for electrical cables that led from the facility to mines in the harbor. The gallery was 2 feet wide, 3 feet high, 60 feet long, and it extended eastward to just beyond the original shoreline at which point its opening was 1 foot below the mean high water line. From that point, a concrete trough extended another 60 feet into the bay where it terminated 2 feet below the mean low water line (Correspondence 8-10-1908: 67361/140).

Construction of the original unit called for the excavation of 1200 cubic yards of earth, the pouring of 550 cubic yards of concrete, the placement of steel beams weighing 2984 pounds, and the installation of wooden flooring, tables, shelves, and doors. Total cost of the project was estimated at \$6,379 (Correspondence 12-1-1896: 16342/4; 12-6-1898: 21824/32).

A list including locations of plans relating to original construction is as follows:

The following plans and drawings of the Fort Rosecrans Mining Casemate are located at the National Archives, Washington D.C., Record Group 77-Office of the Chief of Engineers, U.S. Army Collection, Cartographic Section. Copies are available at the Cabrillo National Monument, Point Loma, San Diego, CA.

<u>Date</u>	<u>Drawer</u>	<u>Sheet</u>	<u>Title</u>
Jan. 1897	102	19-6	Typical section showing cable gallery and trough from casemate to the water.
Dec. 6, 1898	102	19-2	Engine and battery room for the Mining Casemate at San Diego, Harbor, CA.
Oct. 30, 1908	102	50-2	Part of Fort Rosecrans, CA showing proposed location for new torpedo structures.
1908	102	19-5	Endicott Period fortification locations.
Nov. 9, 1909	102	50-9	Survey in the Vicinity of the Mining Casemate, Fort Rosecrans, CA.
Jan. 20, 1911	102	50-21	Torpedo Structures, Fort Rosecrans, CA.

6. Alterations and Additions: The Mining Casemate became operational in the spring of 1898, but it was clearly evident that there was a deficiency in the size of the original unit as the generator had to be placed above ground in a simple wooden shed. Plans were, therefore, immediately made to construct an engine room adjacent to the original unit.

Construction of the new engine room began in March 1899 and involved the excavation of 450 cubic yards of earth, the pouring of 140 cubic yards of concrete, and the installation of steel beams weighing 2280 pounds. Excavation was completed in April, and the cutting away of concrete from the original casemate was completed by May. The structure, including the pouring of concrete, installation of equipment, and backfilling of dirt was completed by the end of June (Chief of Engineers 1900, Appendix 4:977). A year later a storage battery was installed and a picket fence was placed around the new stairway and light well (Chief of Engineers 1901:3, 12). The engine room was 10 feet x 18 feet x 9 feet in height, and was built adjacent to the north end of the original unit. The floor of the new unit was level with the ceiling of the original unit. A stairway along the west wall of the structure provided access to the surface on the north side, and to the

original below ground unit through a new passageway and door. A light well and small window provided ventilation and light. Four feet of concrete and 6 feet of earth covered the new facility which housed the generator, transformer, and electrical storage batteries (Correspondence 12-6-1898: 2/824/32; U.S. Engineer Office 1898: 102-19-2). During this same period, construction also proceeded on a mine storehouse and cable tank. These facilities were completed by June 1900 (Correspondence June 9, 1900: 2642/33).

Regardless of these improvements, the mining facilities were soon found inadequate. An inspection report for February 1905 states that the Mining Casemate was of the "...old style, badly ventilated and inconvenient..." and that a new one should be built. The same report also noted that both the cable tank and mine storehouse were inadequate and inconveniently located (Correspondence 4-5-1905: 54641/1). As a result of these deficiencies, a board of officers recommended on October 7, 1905, that sleeping and battery rooms be added to the casemate, and that additional facilities including a mine planting wharf, storehouse, cable tank, searchlights, loading room, and fire control station be constructed.

Plans for the proposed additional facilities were approved in January 1909 and all work was completed by January 1910 (Correspondence 1-22-1909: 25577/54; 4-20-1910: 37842/206; 1-20-1911: 25577/18; 1-30-1911: 25577/96). The battery and sleeping rooms were constructed of reinforced and poured concrete on the north side of the existing light well. The sleeping room measured 9 feet x 16 feet and the battery room 10 feet x 16 feet. Both were 11 feet in height. The walls were 2 feet thick and the structure was covered by approximately 4 feet of earth (Chief of Engineer 1911, 102-50-21).

In 1917, plans were again made to update the Mining Casemate to protect it from improved battleship artillery (Correspondence 25577/160). A frame roof was built over the light well and a 60-foot tunnel was constructed to connect the basement of Building 158 with the western entrance. The 1917 additions completed the final construction phase of the Mining Casemate unit.

B. Historical Context

The Mining Casemate at Fort Rosecrans is significant as an integral part of the first modern defense system built to protect San Diego Harbor. It represents an early use of steel-reinforced and poured concrete construction as applied to military installations, and is the only example of its period and type in southern California. It also represents the use of 19th century state-of-the-art electronic warfare, and while relatively primitive in design, set the standard for increasingly more sophisticated systems which were subsequently developed.

Armament for San Diego's defense was planned in 1885 by the Endicott Board, which was appointed by President Grover Cleveland to develop a national program of coastal fortifications. The board recommended fortification of 29 locations including San Diego, which was ranked 21st in importance (Lewis 1979:77; Callaghan 1980:22).

The Endicott Board advocated development of the most sophisticated and technologically advanced weapons system created up until that time, including the use of "electronic" warfare. Existing Endicott period fortifications, including the Fort Rosecrans Mining Casemate, represent late 19th and early 20th century state-of-the-art technology in the uses of steel for armament manufacture and poured concrete in the construction of defense emplacements (Lewis 1979:76-79).

The board planned four classes of harbor defense. Each class of armament could be applied and combined with other classes as needed at each fortified location to form components of a total defense system (Lewis 1979:79). The Endicott plan called for first, third, and fourth class armaments at San Diego to be constructed at the harbor's mouth on Ballast Point and North Island. Fortifications on North Island, known as Battery Mead, consisted of two 3-inch rapid fire guns. Fortifications built at Ballast Point included Battery Wilkenson, an emplacement of two 3-inch rapid fire guns; Battery Fetterman, an emplacement of two 5-inch rapid fire guns; and a mining casemate, storage facilities, and a planting wharf for electronically controlled mines (Roth et al. 1982; Van Wormer and Roth 1985:4; Chief of Engineers 1904:228, 2470-2473).

Controlled submarine mines, known until the early 1900s as "torpedoes," were connected to a position onshore and remained inert until exploded. The Mining Casemate was an underground structure of poured concrete that housed the control and electronic generating facilities for the mine fields. Mines were not permanently placed in harbors, but stored onshore along with miles of electronic cable and detonation devices. Additional facilities onshore for storage and planting of mines included a torpedo storehouse, cable tank used to keep the cable wet during storage, loading room, and wharves. A special mine laying vessel and fire control station completed the components of the underwater mine defense system (Lewis 1979:88). All Endicott period facilities were completed at San Diego by the end of 1903, providing San Diego Harbor with its first modern coastal defense system (Roth et al. 1982; Van Wormer and Roth 1985:25; Callaghan 1980:22-49; Ruhlen 1959; May 1985:21).

From 1922 to 1935, Fort Rosecrans was reduced to caretaker status as part of a national policy of disarmament. With the increased threat of world war during the middle 1930s, action was taken to revitalize coastal defenses including Fort Rosecrans. New armament planned for the fort, however, did not include submarine mines or use of the Mining Casemate as part of the defense system. Quite simply, updated technology made submarine mines obsolete as a useful component of the defense system for San Diego Harbor (Roth et al. 1982; Van Wormer and Roth 1985:11).

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. **Architectural Character:** The Mining Casemate at the old Fort Rosecrans U.S. Army Coastal Defense Facility represents an early use of reinforced and poured concrete as applied to military installations and is the only example of its period and type in southern California. The building is architecturally unique in that as an underground structure it is, with the exception of the northern or main entry elevation, void of architectural detail. Originally intended as an electronic control facility for the detonation of mines, the building was designed to withstand the direct impact of heavy battleship artillery shells, thereby allowing for the continued protection of the harbor against possible invasion. As a result, the design and construction of the facility were directed solely toward the uninterrupted operation of the unit with little, if any, regard for user comfort. The building is, therefore, a remarkably pure expression of utilitarian construction and design, where form is dictated entirely by function.
2. **Condition of Fabric:** The setting of the building has been altered by the removal of the original earth fill surrounding the structure on the eastern and southern elevations and with the partial removal of the fill on the western elevation. This condition does afford the opportunity for a detailed study of the original underground construction, massing, and design of the building. The exterior of the structure, following its final construction phase, is virtually unaltered. The interior still retains its design integrity, although the majority of the original electrical equipment has been removed.

B. Description of Exterior

1. **Overall Dimensions:** The casemate is a shallow L-shaped structure oriented north to south on its long axis, with the junction of the long and short axes on the northwest corner of the structure. It consists of four rooms, two in each axis, and is built on two major levels. The structure measures 27 feet along the northern elevation of the short axis, which also serves as the main entrance, and 55 feet along the long axis. Each segment is 22 feet in width. The structure is approximately 36 feet high.
2. **Foundation:** The foundation of the structure is of reinforced concrete. The precise thickness of the foundation cannot be determined as it is still partially underground, although drawings indicate that it is approximately 1 foot thick. The structure was originally built into a bluff approximately 35 feet above the former shoreline. The foundation of the structure rests, therefore, on or directly above the actual water table.
3. **Walls:** The walls of the structure are constructed of reinforced concrete. The horizontal mold lines are clearly outlined on all portions of the structure which were originally underground, and the surface has been covered with a black waterproofing compound. The original

exposed portions of the structure, primarily the north elevation, have been surfaced in finished concrete and have been painted green.

4. **Structural System and Framing:** The structure is universally constructed of reinforced and poured concrete with both steel beams and rods. The concrete is comprised of unusually large rock aggregate. All walls are load bearing and they vary in thickness from 2 to 4 feet. The actual placement of the steel and rod reinforcing is unknown and is not shown on any drawings.
5. **Porches, Stoops, Balconies, and Bulkheads:** The structure does not have any porches, stoops, or balconies. The northwest corner of the structure has been roofed by a wooden observation deck which has recently been partially demolished. This deck had pipe railings and asphalt and wood flooring. The pipe railings and the flooring are in ruin. Two bulkhead walls extend eastward from the upper level of the structure slanting downwards toward the roof of the lower level of the north elevation along the east to west axis. These walls are without detail, serving primarily as a means of containing the original earth fill and as a partial foundation for the wooden observation deck.
6. **Chimneys:** The structure has no chimneys but it does have four concrete pipe vent shafts which lead, two each, into the engine and casemate control rooms. The pipe is circular in cross-section, and was laid vertically as the roofing was poured. The original vent cap has been removed. A second and entirely separate vent structure is located to the west of the main unit and directly atop a tunnel which leads to the basement of the Commander's Headquarters building. It consists of a rectangular concrete feature with screen siding.
7. **Openings**
 - a. **Doorways and Doors:** The structure was designed with three entrances. The main entrance is set into the northern elevation at the upper level. A concrete stairway leads upwards from the lower level to the entry level and downwards from the street located atop the bluff and to the west of the structure. From the entry level, a concrete stairway leads downwards along the western wall of the structure to the main doorway. The door consists of a heavy wood unit with metal straps. A large lockplate with a single oversize keyhole and handle is original. A second entrance is set into the northern elevation at the lower level. It consists of a simple sheet-metal door with a hasp lock which replaced the original doorway. The third entrance is located at the end of a tunnel which leads from the casemate control room via a stairway and tunnel to the basement of the Commander's Headquarters building. This entrance has been sealed with concrete block.
 - b. **Windows and Shutters:** The structure currently has no window fenestration. The structure did have two rectangular window openings located directly to the west of the lower level entrance of the northern elevation, but these openings have been filled with concrete.

8. **Roof Shape and Covering:** The roof is irregular in shape. The actual roof surfaces are flat. However, parapet and buttress walls form a central pyramidal mass on the eastern elevation. These building features originally served as a means of containing the earth fill which covered the structure. They also served as a base for the wooden observation deck which covered the light well and a portion of the main entry stairwell. The concrete roofs are steel reinforced and they vary in thickness from 4 to 15 feet.

C. **Description of Interior**

1. **Floor Plans:** The structure consists of four rooms and a light well. Two rooms are located in each axis, and the building is constructed on two interior levels. The lowest level, the casemate control room, is placed below the remaining three rooms so that its ceiling is at the same level as the floor of the other rooms. The control room measures 12 feet x 18 feet, by 10 feet high. Above and to the north of the control room is the engine room measuring 10 feet x 18 feet, by 9 feet high. The two rooms, located in the east/west axis, are at the same level as the engine room and the light well. They are 11 feet high and measure 9 feet x 16 feet, and 10 feet x 16 feet, respectively.
2. **Stairways:** The interior of the structure has two stairway systems. The first is an extension of the entryway which leads downward from the north elevation entry level to the light well and engine room. This stairway leads from the engine room to the casemate control room. A second stairway leads from the west side of the control room upwards to a concrete landing located directly below a rectangular concrete and screen-sided vent unit. An extension of this stairway leads upwards to a tunnel which angles south to the basement of the Commander's Headquarters building. The stairways are of poured concrete and are in good condition.
3. **Flooring:** The floors are universally of poured and reinforced concrete. The floor of the casemate control room is covered in narrow, unpainted hardwood planking.
4. **Wall and Ceiling Finish:** With the exception of the casemate control room, all wall and ceiling surfaces are of unfinished concrete. The walls and ceilings of the control room are, however, finished with a thin plaster covering. The original color coat appears to have been green with subsequent layers of white paint. Apart from paint, the wall and ceiling surfaces are without detail.
5. **Openings**
 - a. **Doorways and Doors:** The structure has four period doorways. They are all of similar design consisting of diagonal wood planking with 2-inch metal strapping. The first doorway is located at the base of the entry stairway and it is set into the north wall of the light well leading into the generator room. A second, slightly narrower doorway is located at the base of the stairs leading from the engine room to the control room. While it is more narrow than the other doorways, it is identical in

design. A third doorway is set into the west wall of the control room and opens onto the stairs which lead upward to the vent unit landing. The fourth doorway is located at the top of the stairs leading to the vent unit landing. All of the doors have grey painted wood and black metal banding. A fifth doorway originally led from the light well to the 9-foot x 16-foot room located in the east/west axis. This doorway has been sealed with concrete block.

- b. Windows: A single bottom-hinged, rectangular, wood-framed and multi-pane glass window is set into the wall that separates the light well from the engine room. This is the only interior window opening.
6. Decorative Features and Trim: The structure has no interior detail apart from the doors. Very simple wood and metal cabinets are located in the two rooms located in the east/west axis. These are not, however, original interior features.
7. Hardware: The only hardware consists of a single pipe railing located in the engine room on the east side of the stairway leading downward to the casemate control room, and the utilitarian handle and lockplates which are a part of the four original doorways.
8. Mechanical Equipment
 - a. Heating, Air Conditioning, and Ventilation: The structure has no equipment of this type apart from the natural air vents located in the control and engine rooms and the separate rectangular and screen-sided concrete vent located above the stairway leading to the basement. Ventilation was also provided by the light well.
 - b. Lighting: No original lighting fixtures remain. However, several early metal cage utilitarian lamps are found in the stairway and tunnel leading to the basement of the Commander's Headquarters building. In addition, a set of early push-button light switches are found in the control room. These switches and the cloth wrapped wire connected to them may be original. If not, they most certainly date from an early period of occupancy.
 - c. Mining Control Equipment: A single fuse box with wood insulators is located in the casemate control room. This appears to have been part of the original control system. In addition, the cable gallery set into the floor of the control room carried the cable 60 feet underground to a point just beyond the original shoreline. Remnants of original cable project from the walls of the cableway, although there is no indication of their specific function.
9. Original Furnishings: Apart from a wooden hatch set into the floor of the control room to cover the access of the cableway, no original furnishings are associated with the structure.

- D. Site General Setting: The structure is set into a 35-foot bluff overlooking the original shoreline. The bluff faces eastward and presently has an asphalt paved roadway (Sylvester Road) running along its crest and to the west of the casemate building. To the east of the roadway and slightly south of the casement, there is a one-story brick structure which currently serves as the Commander's Headquarters building (#158). Located to the west of the roadway are three 2-story wood frame structures (Building #'s 137-139). These four structures are historic features and they add significantly to the overall sense of integrity that is part of old Fort Rosecrans. To the north of the casemate building, there is a narrow asphalt paved path which curves downward from Sylvester Road to a parking area located to the north and east of the building. Several eucalyptus trees flank the path, which follows the original roadway leading from Sylvester Road to the shoreline. Guijarros Road splits off Sylvester Road, curving to the east, just south of the casemate building.

PART III: SOURCES OF INFORMATION

A. Architectural Drawings

The plans and drawings of the Fort Rosecrans Mining Casemate are located at the National Archives, Washington D.C., Record Group 77-Office of the Chief of Engineers, U.S. Army Collection, Cartographic Section. Copies are available at the Cabrillo National Monument, Point Loma, San Diego, CA.

See Part I.A.5 for the list of plans and drawings available.

B. Historic Views

The following listed photographs of Fort Rosecrans are part of the San Diego Historical Society TICOR Collection. They show the casemate location, planting wharf, torpedo storage and loading rooms, and cable tank, as well as some test explosions.

<u>Accession No.</u>	<u>Subject</u>	<u>Year</u>
915	Mine test explosion	1910
915a	Mine test explosion	1910
915b	Mine test explosion	1910
3620	Fort Rosecrans showing loading wharf and crane	1916
6439	Fort Rosecrans showing loading wharf and facilities	1911
6446	Fort Rosecrans showing loading wharf and facilities	1911
6452	Fort Rosecrans showing loading wharf and facilities	1934
12655	Fort Rosecrans showing loading wharf and facilities	1911
13326	Torpedo storage and cable tank structures while under construction	1908
79:741-221	Aerial photograph of Fort Rosecrans showing the mine planting wharf and casemate location	1937

C. Interviews

No interviews were conducted as a part of the present study.

D. Bibliography

1. Primary Unpublished Sources:

Chief of Engineers, National Archives, Washington D.C. Document File 1894-1923, Record Group 77, Entry 103. Copies are on file at the Cabrillo National Monument, San Diego.

Correspondence. General correspondence of the Army Corps of Engineers concerning construction of fortifications at Fort Rosecrans cited in text, 1897-1917. On file at the Cabrillo National Monument Library, San Diego.

U.S. Engineer Office. (Plan of) Endicott Period Fortifications at Ballast Point, 1908. On file at the National Archives, Washington, D.C., Record Group 77, Fortifications File, Drawer 102, Sheet 19-5. Copy on file at the Cabrillo National Monument Library, San Diego.

U.S. Engineer Office. Survey in the Vicinity of the Mining Casemate, Fort Rosecrans, California. U.S. Engineer Office, Los Angeles, California, January 9, 1909. On file at the National Archives, Washington, D.C., Record Group 77, Fortifications File, Drawer 102, Sheet 50-9. Copy on file at the Cabrillo National Monument Library, San Diego.

U.S. Engineer Office. (Plan of) Torpedo Structures, Fort Rosecrans, California. U.S. Engineer Office, Los Angeles, California, January 20, 1911. On file at the National Archives, Washington, D.C., Record Group 77, Fortifications File, Drawer 102, Sheet 50-21. Copy on file at the Cabrillo National Monument Library, San Diego.

U.S. Engineer Office. (Plan of) Engine and Battery Room for the Mining Casemate at San Diego Harbor, California. U.S. Engineer Office, San Francisco, California, December 8, 1898. On file at the National Archives, Washington, D.C., Record Group 77, Fortifications File, Drawer 102, Sheet 19-2. Copy on file at the Cabrillo National Monument Library, San Diego.

U.S. Engineer Office. Typical section showing cable gallery and trough from casemate to the water. U.S. Engineer Office, January 1897. On file at the National Archives, Washington, D.C., Record Group 77, Fortifications File, Drawer 102, Sheet 19-6. Copy on file at the Cabrillo National Monument Library, San Diego.

2. Secondary and Published Sources:

Callaghan, Paul Michael. Fort Rosecrans, California. Master's Thesis, University of San Diego, 1980.

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Lewis, Emanuel R. Seacoast Fortifications of the United States: An Introductory History. Annapolis, MD: Leeward Publishing Co., 1979.

May, Ronald V. The Guns of Point Loma: America's First Sea Coast Artillery Defense in San Diego. In The Military on Point Loma. San Diego: Cabrillo Historical Association, 1985.

Roth, Linda, Douglas Flower, Stephen R. Van Wormer, and Todd Hanna. Cultural Resource Inventory: Archaeology/History/Architecture, Navy and Coast Guard Lands Point Loma, San Diego, California. Naval Ocean Systems Center, San Diego, 1982.

Ruhlen, George. Fort Rosecrans, California. San Diego Historical Society Quarterly. 5(1959):60-69.

Van Wormer, Stephen R. and Linda Roth. Guns on Point Loma, a History of Fort Rosecrans and the Defense of San Diego Harbor. In The Military on Point Loma. San Diego: Cabrillo Historical Association (1985):1-20.

E. Likely Sources Not Yet Investigated

The U.S. Army Military History Institute Reference Branch at Carlisle Barracks, PA, (17013) lists the following publications in their collections which may aid in understanding the operation of Mining Casemate facilities.

Abbott, Henry L., Ltd. Report Upon Experiments and Investigations to Develop a System of Submarine Mines for Defending the Harbors of the United States: Professional Papers of the Corps of Engineers, No. 23. Washington D.C.: Government Printing Office, 1881. (UG493A7).

Bucknill, John Townsend. Submarine Mines and Torpedoes as Applied to Harbor Defense. New York: John Wiley & Sons, 1889. 255p. (UG490B92.)

U.S. Army Coast Artillery School. Department of Engineering and Mine Defense. The Weekly Mine Command Inspection: Artillery Notes No. 36. Ft. Monroe, VA: Coast Artillery School Press, 1914. (UG490U5).

U.S. War Department. Provisional Manual for Submarine Mining: New Systems. Washington D.C.: Government Printing Office, 1906. (UG490U56).

U.S. War Department. Regulations for Mine Planters, United States Army, 1907. Washington D.C.: Government Printing Office, 1907. (UG493A3-1907).

PART IV: PROJECT INFORMATION

The Department of the Navy proposes to construct a permanent Single Enlisted Quarters facility at the U.S. Naval Submarine Base in San Diego, California. The Navy is conducting the study under the authority of the National Environmental Policy Act (NEPA) of 1969. The Navy is also acting under the requirements of Section 106 of the National Historic Preservation Act of 1966 (as amended), Executive Order 11593, and Regulations 36 CFR 60 and 36 CFR 800.

The project is located on the U.S. Naval Submarine Base at Ballast Point, San Diego, California. The proposed project includes construction of an eight-story, roughly L-shaped structure which would serve as a Bachelor Enlisted Quarters (BEQ). Accompanying the proposed BEQ would be a three-story rectangular parking garage. The project site is located at the intersection of Rosecrans Street and White Road and currently is the site of an abandoned historic Mining Casemate and prehistoric archaeological site CA-SDI-48.

The proposed BEQ consists of six towers connected by enclosed, recessed walkways and stairwells. The longest side of the BEQ structure, which includes the entryway, would face Rosecrans Street. The parking garage would be located at the intersection of Rosecrans Street and White Road; the long side of the parking garage would also face Rosecrans Street, although access to the garage would be from White Road. An outdoor courtyard, including a seating area and planting areas, would be located on the west side of the BEQ; the courtyard would be enclosed by structures to the east and south and by the existing hillside to the west. The courtyard would connect to an existing walkway which leads up the hill to Sylvester Road.

The project will result in the demolition of the Mining Casemate (Building 167). The HABS documentation is, therefore, a mitigation measure required by a Memorandum of Agreement to be developed between the Department of the Navy Western Division Naval Facilities Engineering Command, California State Historic Preservation Office, and the Advisory Council on Historic Preservation.

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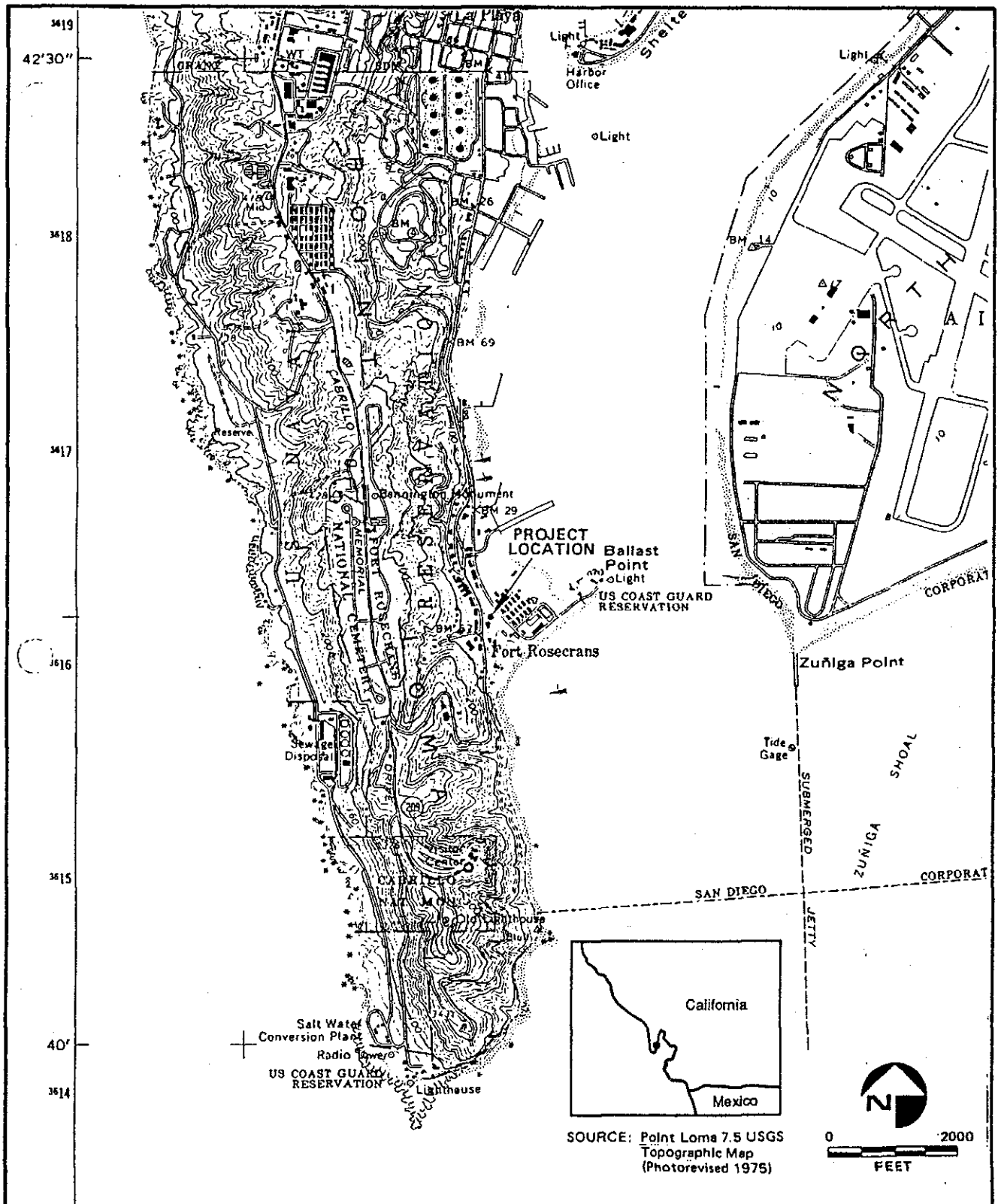
Stephen Van Wormer
Historian

Bill Agee
Photographer

Allan Schilz
Senior Archaeologist, Project Manager

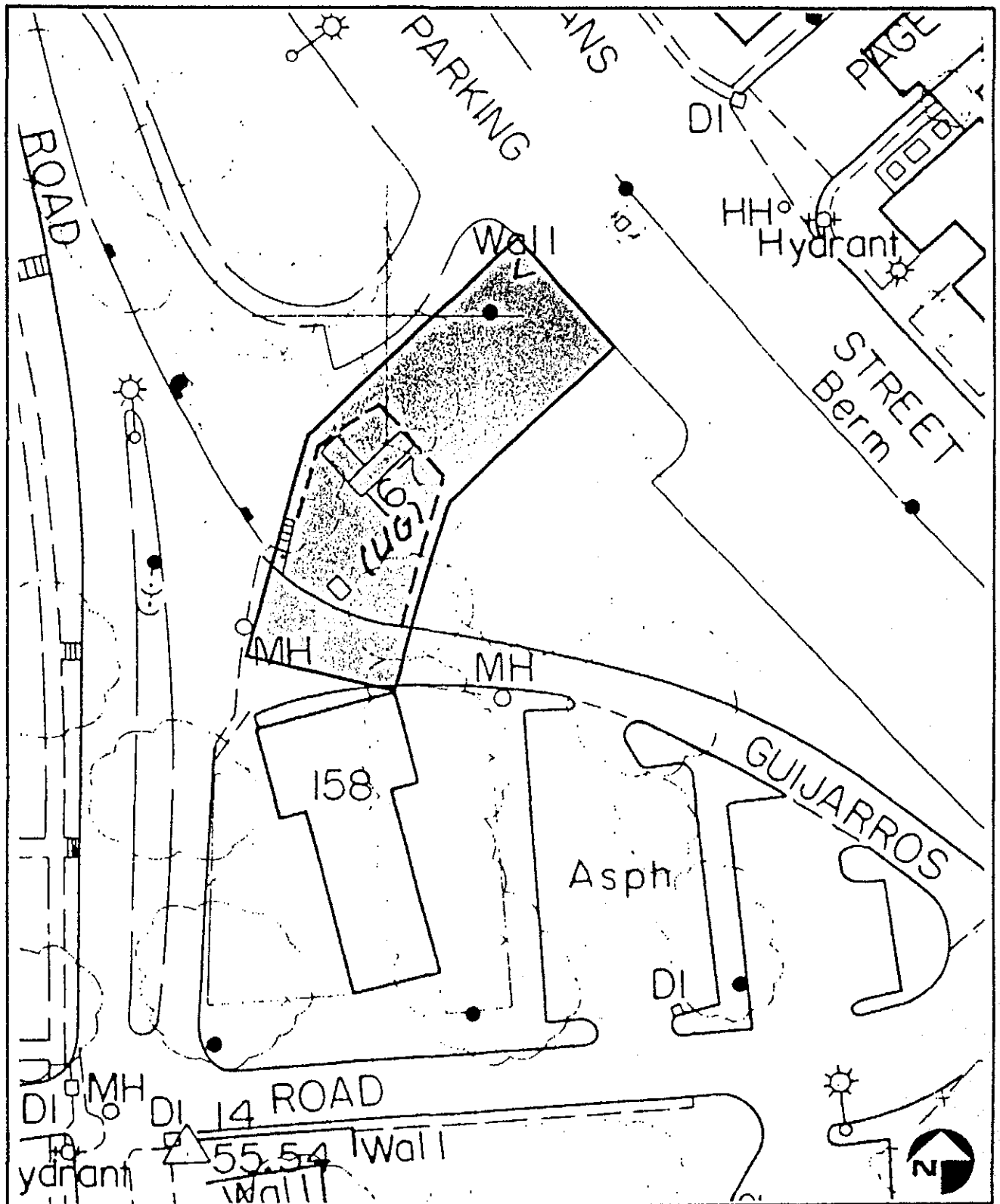
Affiliation: WESTEC Services, Inc.
5510 Morehouse Drive
San Diego, CA 92121-1709

Date: March 10, 1987



Project Location as Shown on Point Loma 7.5' U.S.G.S. Quadrangle

FIGURE
1



Mining Casemate Structure Area

FIGURE
2